1   We claim:

1   1.   A method to activate a code update for a data storage drive, comprising

2   the steps of:

3   receiving said code update at said data storage drive while said data storage drive

4   performs normal drive operations;

5   detecting a host computer transparent event;

6   activating said code update during said host computer transparent event.

1   2.   The method of claim 1, wherein said host computer transparent event

2   comprises a data storage drive reset.

1   3.   The method of claim 1, wherein said host computer transparent event

2   comprises a power cycle to said data storage drive.

1   4.   The method of claim 1, further comprising the steps of:

2   receiving a host computer command;

3   determining if said host computer command is suitable for said host computer

4   transparent event;

5   operative if said host computer command is suitable for said host computer

6   transparent event, activating said code update; and

7   performing said host computer command.

1   5.   The method of claim 1, wherein said data storage drive comprises an

2   identity, and wherein said data storage drive is disposed in a storage subsystem, further

3   comprising the steps of:

4   transferring said identify to a second component disposed in said storage

5   subsystem,

6   activating said code update;

7   returning said identity to said data storage drive from said second component.

1   '   6.   The method of claim 5, wherein said second component is selected from

2   the group consisting of a second data storage drive, a subsystem controller, a host

3   component, an interconnect component, and combinations thereof.

1   7.   The method of claim 1, wherein said data storage drive comprises a

2   memory device, further comprising the step of writing said code update to said memory

3   device while said data storage drive remains in normal operation.

1   8.   The method of claim 1, wherein said data storage drive comprises a

2   memory device, further comprising the steps of:

3   generating drive status information;

4   writing said drive status information to said memory device while said data

5   storage drive remains in normal operation.

1   9.   An article of manufacture comprising a computer useable medium having

2   computer readable program code disposed therein to activate a code update for a data

3   storage drive, the computer readable program code comprising a series of computer

4   readable program steps to effect:

5   receiving a code update while said data storage drive is operating;

6   detecting a host computer transparent event;

7   activating said code update during said host computer transparent event.

1   10.   The article of manufacture of claim 9, wherein said host computer

2   transparent event comprises a data storage drive reset.

1   11.   The article of manufacture of claim 9, wherein said host computer

2   transparent event comprises a power cycle to said data storage drive.

1   12.   The article of manufacture of claim 9, said computer readable program

2   code further comprising a series of computer readable program steps to effect:

3   receiving a host computer command;

4   determining if said host computer command is suitable for said host computer

5   transparent event;

6   operative if said host computer command is suitable for said host computer

7   transparent event, activating said code update; and

8   performing said host computer command.

1   13.   The article of manufacture of claim 9, wherein said data storage drive

2   comprises an identity, and wherein said data storage drive is disposed in a storage

3   subsystem, the computer readable program code comprising a series of computer

4   readable program steps to effect:

5   transferring said identify to a second component disposed in said storage

6   subsystem,

7   activating said code update;

8   returning said identity to said data storage drive from said second component.

1   14.   The article of manufacture of claim 13, wherein said second component is

2   selected from the group consisting of a second data storage drive, a subsystem controller,

3   a host component, and interconnect component, and combinations thereof.

1   15.   The article of manufacture of claim 9, wherein said data storage drive

2   comprises a memory device, the computer readable program code comprising a series of

3   computer readable program steps to effect writing said code update to said memory

4   device while said data storage drive remains in normal operation.

1   16.   The article of manufacture of claim 9, wherein said data storage drive

2   comprises a memory device, the computer readable program code comprising a series of

3   computer readable program steps to effect:

4   generating drive status information;

5   writing said drive status information to said memory device while said data

6   storage drive remains in normal operation.

1   17.   A computer program product usable with a programmable computer

2   processor having computer readable program code embodied therein to activate a code

3   update for a data storage drive, comprising:

4   computer readable program code which causes said programmable computer

5   processor to receive a code update while said data storage drive is operating;

6   computer readable program code which causes said programmable computer

7   processor to detect a host computer transparent event;

8   computer readable program code which causes said programmable computer

9   processor to activate said code update during said host computer transparent event.

1   18.   The computer program product of claim 17, wherein said host computer

2 transparent event comprises a data storage drive reset.

1   19.   The computer program product of claim 17, wherein said host computer

2 transparent event comprises a power cycle to said data storage drive.

1   20.   The computer program product of claim 17, further comprising:

2   computer readable program code which causes said programmable computer

3 processor to receive a host computer command;

4   computer readable program code which causes said programmable computer

5 processor to determine if said host computer command is suitable for said host computer

6 transparent event;

7   computer readable program code which, if said computer command is suitable for

8 said host computer transparent event, causes said programmable computer processor to

9 activate said code update; and

10   computer readable program code which causes said programmable computer

11 processor to perform said host computer command.

1   21.   The computer program product of claim 17, wherein said data storage

2 drive comprises an identity, and wherein said data storage drive is disposed in a storage

3 subsystem, further comprising:

4   computer readable program code which causes said programmable computer

5 processor to transfer said identify to a second component disposed in said storage

6 subsystem,

7   computer readable program code which causes said programmable computer

8   processor to activate said code update;

9   computer readable program code which causes said programmable computer

10   processor to receive said identity from said second component.

1   22.   The computer program product of claim 21, wherein said second

2   component is selected from the group consisting of a second data storage drive, a

3   subsystem controller, a host component, and interconnect component, and combinations

4   thereof.

1   23.   The computer program product of claim 17, wherein said data storage

2   drive comprises a memory device, further comprising computer readable program code

3   which causes said programmable computer processor to write said code update to said

4   memory device while said data storage drive remains in normal operation.

1   24.   The computer program product of claim 17, wherein said data storage

2   drive comprises a memory device, further comprising:

3   computer readable program code which causes said programmable computer

4   processor to generate drive status information;

5   computer readable program code which causes said programmable computer

6   processor to write said drive status to said memory device while said data storage drive

7   remains in normal operation.